



September 29, 2010

County of Loudoun  
Department of Building and Development  
ATTN: ESI Review  
1 Harrison Street, S.E.  
P.O. Box 7000  
Leesburg, Virginia 20177-7000



**Re: Brambleton Park Site Plan Acceptance  
Traffic Statement  
PHR+A 16313-1-0**

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To Whom it May Concern:

The following is a summary of trip generation and traffic operations for the proposed site plan expansion by the Loudoun County Department of Construction & Waste Management on a portion of Parcel 92-34 on Belmont Ridge Road (VA Route 659) north of the Briar Woods High School in the Dulles District. The site is an approximate 30 acre portion of Tax Map 92 Parcel 34 (MCPI #1157-17-5653), is listed as 22376 Belmont Ridge Road, and is proposed for the construction of three new multi-purpose fields east of Route 659 with 272 new parking spaces. The site plan also includes upgrading the existing parking west of Belmont Ridge Road for the four existing baseball/soccer fields north of the Northstar Boulevard/Route 659 intersection. The parking areas currently are not demarcated but are used for the existing facilities. The proposed site plan includes providing 362 parking spaces west of Route 659 on Tax Map Parcel 91-7 as parcel 26 (MCPI # 157-16-1062). The site west of Route 659 also includes two small fields adjacent to the NVRPA offices and golf area southwest of Route 659.

As part of this site plan, PHR+A has submitted a trip generation summary in August 2010 summarizing that the nine total recreational fields at Brambleton Park would not generate peak period or daily trips for peak usage which would require a VDOT Chapter 527 Traffic Study. The conclusions included a conservative credit for trips associated with only two of the six existing fields. The initial ESI review of the plan requested more information, a traffic study and confirmation from VDOT on the Chapter 527 requirements.

The purpose of this traffic statement is to respond to the ESI comments and document that the proposed uses associated with the subject site plan **DO NOT** trigger a VDOT Chapter 527 Study. In review the plans and the existing activities, the site activities which generate new traffic are associated with the new parking for the fields on Parcel 34 east of Route 659. Therefore, to avoid confusion, the trip tables have been updated to show the

new uses with the site plans and total ADT for design purposes. Our conclusions are based on the following observations:

1. Weekday peak hour and daily trips for recreation uses base on the ITE Trip Generation Manual (8<sup>th</sup> Edition) do not trigger the volume requirements as defined in the Virginia Regulations 24VAC30-155-50.

The August 2010 traffic statement showed 202 VPH and 1,057 VPD for the total uses of nine fields for the weekend conditions. This is less than the 250 peak and 2,500 daily trip thresholds.



2. Based on the total fields and the ITE trip generation averages, the Saturday peak hour uses for all nine fields do exceed the VDOT 527 thresholds for all the fields. However, the VDOT regulations recognize credit for existing uses as defined as redevelopment sites. The previous submission included a discount for two fields from the ITE empirical calculations, but in examining the VDOT guidance, the redevelopment site reduction applies to development with different and denser user; however, the credit to be deducted are trips removed with the new uses. Therefore, PHRA corrected the tables to show the traffic volumes for the site plan activities for the new uses which will add trips.
3. To be consistent with the site plan, the new uses associated with the site plan can be calculated based on three new fields, east of Route 659. The ITE trip generation shows 86 VPH and 352 VPD for the new uses of three fields for the weekend conditions. This is less than the 250 peak and 2,500 daily trip thresholds.
4. To verify Saturday actual conditions, PHR+A recorded peak period turning movement counts at the Brambleton Park/Route 659 intersection to calculate the peak period existing traffic for a Saturday; the resultant trips for a Saturday peak hour with two fields in use is 97 two-way trips. Extrapolating the peak hour trips to the proposed site plan, the new fields would generate 146 peak hour trips (two-way) for a Saturday, which is less than the VDOT 250 peak hour thresholds.
5. Based on our understanding of the VDOT regulations, the VDOT Chapter 527 thresholds are determined by the County. PHR+A cannot request VDOT validation, but the jurisdiction has final determination. Therefore, the County should request input from VDOT or provide a determination that a traffic study is required with the subject site plan. Based on our professional opinion, as documented below, the proposed site plan does not trigger additional trips to justify a VDOT Chapter 527 study.

The following paragraphs provide the technical materials to support our conclusions.

The site access is proposed as three commercial entrances to existing curb cuts, including the eastern entrance at the old Route 659 R.O.W. The proposed site plan application by the Applicant (Loudoun County Department of Construction and Waste Management) will include a facility with a maximum of 152 parking spaces adjacent to the Route 659 east leg and 120 parking spaces to the north.

The traffic statement outlines the comparison to the VDOT Chapter 527 requirements (which are not satisfied) and a description of existing Saturday traffic conditions.



### ***VDOT Chapter 527 Requirements***

As part of the requirements of VDOT's Chapter 527 regulations, a traffic impact analysis must be submitted with any site action if the site trip generation is over a certain threshold. The following paragraphs outline our understanding of the Code of Virginia Section 15.2-2222.1 and the Traffic Impact Analysis Regulations 24 VAC 30-155-50 for site plans in relation to the proposed land use activity. For the subject site, the net trip generation for the site provides support that additional Chapter 527 review is **not** required.

### ***Trip Generation***

For trip generation calculations, the proposed uses were derived based on the number of fields and comparison to general recreational and park uses in the Institute of Transportation Engineers (ITE) *Trip Generation (8<sup>th</sup> Edition)* Manual. Since this park has existing uses and the ITE Manual does not have a large data base for parks, PHR+A checked existing traffic at Route 659 to verify the ITE trip rates. The application of ITE trip rates for soccer park uses were used consistent with VDOT guidelines.

The VDOT range of trip rates for the ITE trip rate variables are included in Table 1 showing the maximum trip generation associated with the proposed plans for three fields to the east and the existing six fields to the west of Route 659. The trip table show the weekday, weekday peak, and Saturday peak hour and Daily trips as revised for the 3 new fields to be used, as well as the empirical tabs for the 6 fields to the west. The revised trips based on the site plan activities for three fields are shown in Table 2 for VDOT Chapter 527 compliance. (Inbound and outbound are not shown in Table 2, since they are not relevant to the 527 threshold analysis).

The site plan does include improvements to the west of Route 659, but these improvements do not add capacity to the fields; instead the improvements replace fencing and pave the parking areas. The ITE data bases for recreational uses – County Park, Regional Park, and Soccer Complex – do not provide trip rates per parking spaces.

**TABLE 2**  
**VDOT CHAPTER 527 TRIP GENERATION**

Use	AM Peak Roadway	PM Peak Roadway	PM Peak Generator	Saturday Peak Hour of Generation	Daily Trips (VPD)
County Park @ 3 Fields (ITE Code 488)	4	62	65	86	214 (352 Sat.)
Site Plan based on Saturday Field Counts	--	--	--	146	--
VDOT Threshold	NO< 250	NO< 250	NO< 250	NO< 250	NO< 2,500

Source: ITE Trip Generation, 8<sup>th</sup> Edition, (Computations by PHR+A) See Table 1 for details and Table 3 for existing trips. Weekday peak hour of generator = 84 trips

For a traffic impact analysis to be required for commercial uses (other uses), the total peak hour trips must exceed 250 trips per hour.

As outlined under existing conditions, the 'worst case' trip generation based on existing counts at Brambleton Park for a Saturday, the peak trips over one hour for this site is 146 trips, so the threshold is not reached. The threshold for daily trips is 2,500, which is far greater than the 146 generated by this site plan uses. Since the use is not a residential activity, the VDOT low volume road threshold also does not apply. Therefore, a VDOT 527 review is not required with the site plan submission.

## Roadway Context

The site study area has 2 public streets, with no programmed construction improvements consistent with the Countywide Transportation Plan and development proffers:

- Belmont Ridge Road (Va. Route 659) – Serves the site with a four lane undivided roadway adjacent to the site serving as access to Briar Woods High School to the south. The speed limit is posted at 45 MPH and no safety concerns are noted. The road is a major collector south of the park and is designated as a six lane divided minor arterial to the north. It is widened to a four lane divided cross-section bisecting the site with existing fields to the west and the proposed fields east of Route 659.
- Northstar Boulevard south of the site is a four lane divided minor arterial designated as Route 659 relocated in the CTP. Northstar Boulevard is posted at 45 MPH and extends south to Route 772.

The Route 659/Northstar Boulevard intersection is a four-legged junction with the north-south leg (Northstar Boulevard the new link to the south and Belmont Ridge Road

to the north). The intersection stop is controlled for the east leg of Route 659 and the west leg for the Park. The east leg of Route 659 is marked as a shared through/left and separate right turn to Route 659 northbound. The park entrance is one lane outbound and the north/south approaches have two through lanes and separate left/right turn bays. Sight distance is adequate in all directions. The east leg of Belmont Ridge Road is constructed with sidewalks on both sides but no crosswalks are painted at the intersection and ADA accessible ramps are located on the east side. No other traffic hazards were observed. Existing VDOT published daily traffic for Route 659 is 9,800 VPD in 2009.

### Existing Conditions

Traffic counts by PHR+A on Saturday, September 18, 2010, were used to establish existing traffic conditions. Data was collected between 11:30 a.m. and 2:30 p.m. to determine the roadway and park peak periods. The summary of the counts are shown in Table 3 with the park peak turns occurring between 12:30 and 1:30. The count worksheets are included in Appendix A.

TABLE 3: EXISTING 2010 SATURDAY PEAK HOUR TRAFFIC VOLUMES

Direction	Peak Hour Volume	
	Roadway Peak (11:30-12:30)	Park Peak (12:30-1:30) *
Northstar Boulevard Northbound		
NB Left	8	1
NB Through	131	--
NB Right	2	--
Route 659 Southbound		
SB Right	12	12
SB Through	190	--
SB Left	352	--
Route 659 Westbound		
WB Left	7	--
WB Through	11	31
WB Right	428	--
Park Entrance Eastbound		
EB Left	38	28
EB Through	2	11
EB Right	1	14

\* Only for turning traffic volumes entering west leg shown (combined eastbound and NB L, WB T, SB R)

The trip generation for the site was calculated based on the field in use during the Saturday afternoon counts. The two softball fields were not in use during the counts and two of the four northern fields were not in use. However, two of the fields were being used for soccer events with matches generally ending at 11:45 a.m. and 1:00 p.m. To be conservative, PHR+A derived a trip rate for fields based on the two in use; as shown in

Table 4 below. Parking observed in the lots were approximately forty vehicles north and ten to the south before and after the intersection counts.

The trip rates for the park peak was the highest between 12:30 and 1:30 p.m., or an hour after the peak of the intersection. The effective trips per field are higher than the ITE averages by about 65-70 percent. The spring sport season would have more overlap of soccer and baseball activities; however, the September trips per field calculations shown total traffic volumes with continuous activity and trips as the field change users between games, matches, and practices. Weekday peaks were not investigated since the ITE trip rates were not in question by Loudoun County



TABLE 4: SATURDAY PARK TRIP GENERATION FIELD CALCULATION CONDITIONS

		Saturday Road Peak Hour			Saturday Park Peak Hours		
		In	Out	Total	In	Out	Total
Brambleton Park Six Fields with Two in Use	Trips	31	41	72	44	53	97
	Trips per Fields			36.0			48.5
	New Trips at 3 Fields			108			146
	ITE Average Rate Trip per Field			28.6			28.6

#### Site Trip Generation

As outlined in the Chapter 527 section, PHR+A utilized the trip generation rates listed in the 8<sup>th</sup> Edition of the Institute of Transportation Engineers (ITE) *Trip Generation* Manual to estimate the number of trips generated by the proposed fields east of Route 659. For the subject site, recreation uses (ITE land use code 488, 412, and 417) were used based on three fields, as summarized in Table 5 for the weekday and Table 6 for Saturday.

TABLE 5  
 BRAMBLETON PARK – WEEKDAY TRIP GENERATION SUMMARY

	AM Peak Period			PM Peak Period			Daily
	In	Out	Total	In	Out	Total	
Soccer Fields* (Proposed Three Fields)	2	2	4	43	19	62	214

Note: \* Total trips do not include existing facilities.

TABLE 6  
 BRAMBLETON PARK – SATURDAY TRIP GENERATION SUMMARY

SOCCER FIELDS (3 FIELDS)	SATURDAY PEAK PERIOD			
	IN	OUT	TOTAL	DAILY
Soccer Fields (Three Fields)	66	80	146	595

Note: \* Total trips do not include existing facilities.

### Daily Traffic

To calculate Daily Trips for the site plan, PHR+A utilized the Saturday field conditions derived trip rates and factored the trips per field to the ITE averages. This approach increases daily trips for the entrance design and provides a conservative approach. As shown in Table 7, by factoring the trips per field for two fields and applying it to the 6 fields east and three proposed fields to the west, the Daily Traffic Volumes were increased from ITE to derive ADT by links for the public street connections. Table 7 also includes the trip generation for the existing NVRPA offices, to add to the park uses.



The driveway volumes shown in Table 8 show both weekday and Saturday ADT for 2015, while the road link ADT is based only the weekday peaks from VDOT published data with growth. PHR+A would suggest using the Saturday trips for pavement design.

TABLE 8: PROJECTED DAILY TRAFFIC VOLUMES WITH BRAMBLETON PARK

Link	Daily Traffic Volume (VPD)	
	Weekday	Saturday
Route 659 North Leg	12,000	
Route 659 East Leg	10,100	
Northstar Boulevard	2,000	
NVRPA Brambleton Park Entrance	1,200	1,300
Proposed Brambleton Park Entrances		
West	80	120
Central	130	210
East (Old Rte 659 Alignment)	170	270

We hope the above analysis will satisfy the County requirements in initiating the proposed site plan review. The Saturday conditions are document t based on field conditions and the trip calculations are refined to demonstrate that the site plan uses not trigger a VDOT 527 analysis. Please contact our office at (703) 449-6700 if you have any further questions.

Sincerely,

**PATTON HARRIS RUST & ASSOCIATES**

A handwritten signature in dark ink, appearing to read 'DRK', is written over a horizontal line.

Douglas R. Kennedy, P.E.

Vice President

Director of Transportation Planning

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cc: Mr. Mark Thomas/PHR+A

Mr. Jason Dooley/PHR+A

Mr. Apurva Andurlekar/PHR+A

Enclosures: Table 1, Table 7; Appendix A: Saturday Traffic Counts

## Site Plan Trip Generation Calculations with 3 New Fields

ITE Land Use (1)				USE	AM PEAK HOUR			PM PEAK HOUR			DAILY
CODE	CODE	DENSITY	Var.		IN	OUT	TOTAL	IN	OUT	TOTAL	(2-way)
Proposed Uses with Site Plan											
488	488.000	3 fields	Soccer Complex	NEW Fields east of Route 659 to add Trips; proposed 272 Parking Spaces							
488	488	6 fields	Soccer Complex	Existing Uses west of Rte 659; Site Plan paving existing parking north @ 362 spaces							
Weekday				Shaded area are new trips; Other variables & existing park trips shown for comparison.							
488	488	3 fields	Soccer Complex	2	2	4	43	19	62	214	
488	488	6 fields	Soccer Complex	4	4	8	86	38	124	428	
412	412	65 acres	County Park	1	0	1	2	2	4	148	
417	417.2	65 acres	Regional Park (Max)	0	0	0	30	42	72	2540	
Total Trips (East + West)				6	6	12	129	57	186	642	
Peak Hour of Generator				Shaded area are new trips; Other variables & existing park trips shown for comparison.							
488	488.12	3 fields	Soccer Complex (Gen)	5	4	9	21	44	65	214	
488	488.12	6 fields	Soccer Complex (Gen)	9	8	17	43	88	131	428	
412	412.12	65 acres	County Park (Gen)	24	10	34	13	25	38	148	
417	417.22	65 acres	Regional Park (Generator)	6	4	10	7	10	17	297	
Total Trips (East + West)				24	10	34	13	132	196	642	
							WEEKEND PEAK HOUR			DAILY	
							IN	OUT	TOTAL	(2-way)	
							Shaded area are new trips; Other variables & existing park trips shown for comparison.				
488	488.16	3 fields	Soccer Complex (Sat)				41	45	86	352	
488	488.16	6 fields	Soccer Complex (Sat)				83	89	172	705	
412	412.16	65 acres	County Park (Sat)				86	60	146	789	
417	417.26	65 acres	Regional Park (Sat)				11	11	22	367	
Total Trips (East + West)							124	134	258	1,057	
VDOT 527 Check Site Plan											
Peak		Daily		Peak		Daily					
62	Peak St.	214	Peak Trips, Sat.	86	352						
65	Peak Gen.	214									
86	Sat.	352	New Uses only	0	0						
				Net Trips	86	352					
Non-Residential Threshold for Site Plan				250	2,500						
527 Required?											
VDOT CHAPTER 527 STUDY NOT REQUIRED											
AM Peak Hour		PM Peak Hour		Daily							
(2-way)		% Inbound		(2-way)		% Inbound		(2-way)			
Effective Trip Rates (2)											
488	Soccer Complex	fields	1.33	50%	20.67	69%	71.33				
412	County Park	acres	0.02	100%	0.06	50%	2.28				
417	Regional Park (Max)	acres	0.00	#DIV/0!	1.11	42%	39.08				
488	Soccer Complex (Sat)	fields			28.67	48%	117.50				
412	County Park (Sat)	acres			2.25	59%	12.14				
417	Regional Park (Sat)	acres			0.34	50%	5.65				
TRIP RATE SOURCE:											
Trip Generation Manual (8th Edition), Institute of Transportation Engineers; 2008.											
Average trip rates used, unless noted with "e", then equations used at size shown, with data set OK for R2 > .075 AND SD > 110% of ave.											
(1) ITE Land Code shown as the first 3 digits. Decimal shown for internal use by PHR+A for lookup table for trip rate variable											
(2) Effective trip rates calculated by land use:											
For average rates =											
For ITE equations, "e" noted =											
(Density) x (ave trip rate) = 2-way Trips ; x (inbound percentage) for Trips In											
(Density) x (trip equation) = 2-way Trips ; x (inbound percentage) for Trips In											



## Site Plan Entrances Calculations with 3 New Fields Based on Existing Counts

ITE Land Use (1)				USE	AM PEAK HOUR			PM PEAK HOUR			DAILY (2-way)
CODE	CODE	DENSITY	Var.		IN	OUT	TOTAL	IN	OUT	TOTAL	

## Proposed Uses with Site Plan

488	488.000	3 fields	Soccer Complex	NEW Fields east of Route 659 to add Trips; proposed 272 Parking Spaces
488	488	6 fields	Soccer Complex	Existing Uses west of Rte 659; Site Plan paving existing parking north @ 362 spaces

## Weekday (3)

Shaded area are new trips; Other variables &amp; existing park trips shown for comparison

488	488.6	3 fields	Soccer (PHRA, adj. from Sat.)	2	2	4	47	57	104	360
488	488.6	6 fields	Soccer (PHRA, adj. from Sat.)	4	4	8	94	114	208	719
710	710.29	25 ksf	Office @ 25 000 gsf	55	7	62	18	89	107	459
Total Trips (East + West)				61	13	74	159	260	419	1,538

WEEKEND PEAK HOUR			DAILY (2-way)
IN	OUT	TOTAL	

Shaded area are new trips; Other variables &amp; existing park trips shown for comparison.

488	488.5	3 fields	Soccer (PHRA Sat Field)	66	80	146	595
488	488.5	6 fields	Soccer (PHRA Sat Field)	131	160	291	1189
710	710.26	25 ksf	Office (Sat)	5	5	10	59
Total Trips (East + West)				202	245	447	1,843

## VDOT 527 Check Site Plan with Existing Counts at 2 fields

Peak		Daily		Peak		Daily	
104	Peak St.	360	Peak Trips, Sat.	146	595		
104	Peak Gen.	360					
146	Sat.	595	New Uses only	0	0		
Net Trips				146	595		

Non-Residential Threshold for Site Plan 250 2,500

527 Required?

## VDOT CHAPTER 527 STUDY NOT REQUIRED

			<u>AM Peak Hour</u>		<u>PM Peak Hour</u>		<u>Daily</u>
			<u>(2-way)</u>	<u>% Inbound</u>	<u>(2-way)</u>	<u>% Inbound</u>	<u>(2-way)</u>
<i>Effective Trip Rates (2)</i>							
488	Soccer (PHRA, adj. from Sat.)	fields	1.33	50%	34.67	45%	120.00
710	Office @ 25 000 gsf	ksf	2.48	89%	4.28	17%	18.36
488	Soccer (PHRA Sat Field)	fields			48.50	45%	198.17
710	Office (Sat)	ksf			0.40	50%	2.36

## TRIP RATE SOURCE:

Trip Generation Manual (8th Edition), Institute of Transportation Engineers, 2008.

Average trip rates used, unless noted with "e", then equations used at size shown, with data set OK for R2 &gt; 0.75 AND SD &gt; 110% of ave.

(1) ITE Land Code shown as the first 3 digits. Decimal shown for internal use by PHRA for lookup table for trip rate variable.

(2) Effective trip rates calculated by land use.

For average rates = (Density) x (ave. trip rate) = 2-way Trips ; x (inbound percentage) for Trips In

For ITE equations, "e" noted = (Density) x (trip equation) = 2-way Trips ; x (inbound percentage) for Trips In

(3) Trips rates derived by PHRA based on peak hour counts Saturday Sept 18, 2010 from 11:30 to 2:30 PM

Rte 659\_Northstar Blvd\_Park Entrance  
Location: Loudoun County, VA  
Time: Saturday (11:30 AM - 2:30 PM)  
Analyst: PHR+A

File Name : Route 659\_Northstar Blvd\_Park Entrance-SAT  
Site Code :  
Start Date : 9/18/2010  
Page No : 1

Groups Printed- Cars - Trucks & Bus

Groups Printed - Cars - Trucks & Bus																									
Route 659 Southbound							Route 659 Westbound							Northstar Blvd Northbound							Park Entrance Eastbound				
Start Time	Left	Thru	Right	Peds	App.	Total	Left	Thru	Right	Peds	App.	Total	Left	Thru	Right	Peds	App.	Total	Left	Thru	Right	Peds	App.	Total	Int. Total
11:30 AM	96	41	5	0	142		0	5	83	0	88		1	43	0	0	0	44	1	0	0	0	0	1	275
11:45 AM	96	38	3	0	137		0	2	84	0	86		4	25	0	0	0	29	32	0	1	0	0	33	285
Total	192	79	8	0	279		0	7	167	0	174		5	68	0	0	0	73	33	0	1	0	0	34	560
12:00 PM	80	63	3	0	146		2	2	135	0	139		1	23	2	0	0	26	3	2	0	0	0	5	316
12:15 PM	80	48	1	0	129		5	2	130	0	137		2	40	0	0	0	42	2	0	0	0	0	2	310
12:30 PM	75	50	4	0	129		0	3	84	0	87		0	27	0	0	0	27	1	0	1	0	0	2	245
12:45 PM	74	55	1	0	130		2	11	79	0	92		0	33	1	0	0	34	1	0	1	0	0	2	258
Total	309	216	9	0	534		9	18	428	0	455		3	123	3	0	0	129	7	2	2	0	0	11	1129
01:00 PM	53	52	4	0	109		6	13	68	0	87		1	38	0	0	0	39	26	8	10	0	0	44	279
01:15 PM	55	48	3	0	106		0	4	77	0	81		0	17	0	0	0	17	0	3	2	0	0	5	209
01:30 PM	73	43	2	0	118		0	3	85	0	88		0	23	2	0	0	25	0	0	0	0	0	0	231
01:45 PM	62	48	2	0	112		0	6	92	0	98		1	34	4	0	0	39	0	1	2	0	0	3	252
Total	243	191	11	0	445		6	26	322	0	354		2	112	6	0	0	120	26	12	14	0	0	52	971
02:00 PM	59	42	3	0	104		4	2	89	0	95		0	34	2	0	0	36	0	0	0	0	0	0	235
02:15 PM	58	49	6	0	113		0	3	75	0	78		2	28	3	0	0	33	0	0	1	0	0	1	225
Grand Total	861	577	37	0	1475		19	56	1081	0	1156		12	365	14	0	0	391	66	14	18	0	0	98	3120
Approach %	58.4	39.1	2.5	0			1.6	4.8	93.5	0			3.1	93.4	3.6	0	0		67.3	14.3	18.4	0	0		
Total %	27.6	18.5	1.2	0	47.3		0.6	1.8	34.6	0	37.1		0.4	11.7	0.4	0	0	12.5	2.1	0.4	0.6	0	0	3.1	
Cars	842	577	37	0	1456		19	56	1066	0	1141		12	365	14	0	0	391	66	14	18	0	0	98	3086
% Cars	97.8	100	100	0	98.7		100	100	98.6	0	98.7		100	100	100	0	0	100	100	100	100	0	0	100	98.9
Trucks & Bus	19	0	0	0	19		0	0	15	0	15		0	0	0	0	0	0	0	0	0	0	0	0	34
% Trucks & Bus	2.2	0	0	0	1.3		0	0	1.4	0	1.3		0	0	0	0	0	0	0	0	0	0	0	0	1.1

	Route 659 Southbound						Route 659 Westbound						Northstar Blvd Northbound						Park Entrance Eastbound					
	Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total		
Peak Hour Analysis From 11:30 AM to 02:15 PM - Peak 1 of 1																								
Peak Hour for Entire Intersection Begins at 11:30 AM																								
11:30 AM	96	41	5	0	0	142	0	5	83	0	88	1	43	0	0	44	1	0	0	0	1	275		
11:45 AM	96	38	3	0	0	137	0	2	84	0	86	4	25	0	0	29	32	0	1	0	33	285		
12:00 PM	80	63	3	0	0	146	0	2	135	0	139	1	23	2	0	26	3	2	0	0	5	316		
12:15 PM	80	48	1	0	0	129	0	2	130	0	137	2	40	0	0	42	2	0	0	0	2	310		
Total Volume	352	190	12	0	0	554	7	11	432	0	450	8	131	2	0	141	38	2	1	0	41	1186		
% App. Total	63.5	34.3	2.2	0	0		1.6	2.4	96	0		5.7	92.9	1.4	0		92.7	4.9	2.4	0				
PHF	917	754	600	.000		949	350	550	800	.000	809	500	762	250	.000	801	297	250	250	.000	311	938		
Cars	343	190	12	0	0	545	7	11	428	0	446	8	131	2	0	141	38	2	1	0	41	1173		
% Cars	97.4	100	100	0	0	98.4	100	100	99.1	0	99.1	100	100	100	0	100	100	100	100	0	100	98.9		
Trucks & Bus	9	0	0	0	0	9	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	13		
% Trucks & Bus	2.6	0	0	0	0	1.6	0	0	0.9	0	0.9	0	0	0	0	0	0	0	0	0	0	1.1		

Peak Hour Analysis From 11:30 AM to 02:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:30 AM

